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118

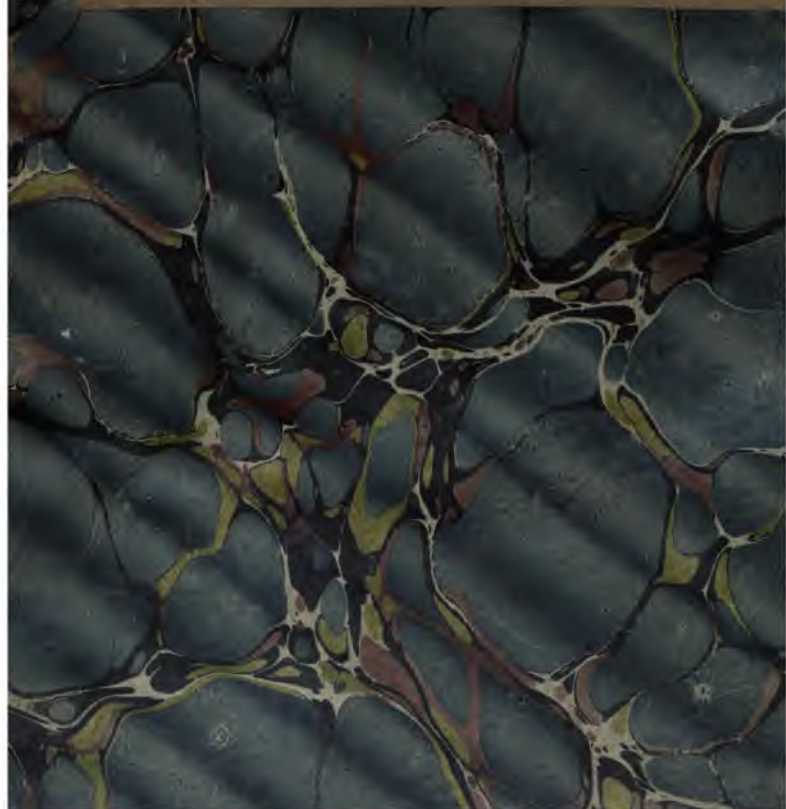
66. 341

K E Y

TO

Eaton's Common School

ARITHMETIC.



EducT 118, 66.341



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FROM

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# KEY

TO

## THE COMMON SCHOOL ARITHMETIC,

GIVING ANSWERS TO THE EXAMPLES.

BY

JAMES S. EATON, M.A.,

INSTRUCTOR IN PHILLIPS ACADEMY, AND AUTHOR OF A SERIES OF ARITHMETICS.

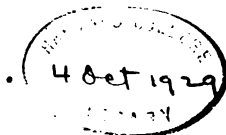


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1866.

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✓



Miss Anna Barrows

Entered, according to Act of Congress, in the year 1868, by  
JAMES S. EATON,  
In the Clerk's Office of the District Court of the District of Massachusetts.

☛ Answers to examples omitted in the Key are inserted in the Arithmetic.

## PREFACE.

---

ANSWERS given in the Arithmetic, are omitted in the Key.

In Decimal Fractions the answers which can be given in full are so given, and others are given accurately to *five* decimal places.

In United States Money the answers to examples following Note 2, p. 150, are given in accordance with that Note, except in a few cases like examples 3 and 4, p. 155, where the *price* per article is given exactly.

Examples in Interest are answered according to Note 1, p. 188.

In the Roots the operations are carried far enough to give the answers correctly for *three* decimal places.

Examples to which the above remarks do not apply will be readily understood by the teacher.

# A KEY,

CONTAINING THE ANSWERS TO EXAMPLES IN

## EATON'S

## COMMON SCHOOL ARITHMETIC.

### A D D I T I O N .

Example.

11.	8,999
12.	9,988
13.	89,789
14.	7,898
16.	6,797
24.	2,115
25.	21,192
26.	223,735
27.	52,201
28.	98,974
29.	62,151
30.	99,430
32.	120,227
33.	59,338
34.	27,015
37.	16,365
38.	10,838
39.	94,279
41.	342,790
42.	171,153
43.	208,977
45.	46,109
46.	77,347
48.	50,041

Example.

50.	22,395
52.	43,758,518
53.	27,332,145
56.	64,230 sq. m.
57.	2,728,116
58.	\$18,827
59.	\$572
60.	\$2,452
61.	1,393,338
62.	6,018,717
63.	184,909,588
65.	\$84,571,886
66.	\$6,506
67.	582,741
68.	1,319,725
69.	948,278
70.	768,449
71.	365
72.	33,648
73.	27,420
74.	\$10,108
75.	446,633
76.	\$31,762

## SUBTRACTION.

Example.		Example.	
11.	4,112	45.	3,593
12.	3,201	46.	4,994
13.	5,310	48.	1,264
15.	302,204	50.	506,139
16.	\$2,264	51.	240
21.	2,487,852	52.	Variable
23.	3,102,074	53.	915,949
24.	377,523	54.	6,128,523
25.	142	55.	29,230sq. m.
26.	916,008	56.	16,817,082 bush.
27.	2,111,108	57.	\$2,450
29.	6,237	58.	408,663
30.	2,127	59.	354,577
31.	545,128	60.	560,246
33.	2,289	61.	67 years
34.	50,081	62.	\$3,134
36.	4,608,998	63.	\$2,586
37.	3,231,058	64.	94,760,000 miles
39.	6,044,508	65.	902 years
41.	63,584	66.	\$1,276
43.	4,305		

## ADDITION AND SUBTRACTION.

3.	\$250	10.	291 miles
5.	\$3	11.	599 years
6.	2,527	12.	\$10,075
7.	Maine, 5770 sq. m.		

## MULTIPLICATION.

13.	48,924	22.	985,516,547
14.	79,479	23.	1,872,612
15.	305,956	24.	17,601,948
17.	43,085,187	25.	4,002,635
21.	12,206,115,006	26.	880,434

Example.

28.	1,354,576
29.	1,555,008
30.	3,277,404
36.	3,379,446
37.	2,420,880
38.	4,040,138
39.	2,738,352
40.	384,134
41.	2,145,594
42.	14,645,612
43.	16,003,352
44.	14,835,296
45.	64,421,850
46.	851
47.	\$1,591
48.	697 miles
49.	899
53.	194,152
55.	566,568

Example.

56.	38,059,956
58.	517,197,024
59.	48,385,638
62.	4,698,000
64.	59,874,000,000,000
68.	63,139,910,400,000
69.	4,639,527,515,000,000
73.	4,377,317,000,000
76.	293,343,530,562
77.	15,662866,418276,000000
80.	4,269,573
82.	6,156 ; 4,788 ; and 5,472
84.	337,792 ; 3,260,992 ; and 3,273,984.
86.	2,775,384 ; 1,404,824 ; and 2,090,104.
88.	27,446,265 ; 137,094,265 ; and 1,027,984,265.

## MISCELLANEOUS EXAMPLES IN MULTIPLICATION.

3.	4,725	8.	420
4.	3,600	9.	1,835,951,910,528
5.	68,400 miles	10.	\$8,760
6.	691,200,000 miles	11.	18,565,056
7.	6,000	12.	14,811,852

## EXAMPLES IN THE FOREGOING PRINCIPLES, page 40.

1.	817 miles	10.	\$126
2.	7,336 miles	11.	\$589
3.	Gained, \$96	16.	\$6,750
4.	\$4,343	17.	43 miles
5.	\$216	18.	\$18,075
6.	Lost, \$16	19.	\$2,523
7.	\$32	20.	\$1,095

## DIVISION.

Example.	Quotient.	Rem.	Example.	Quotient.	Rem.
82.	5,416		84.	73	
83.	7,432,966		85.	19	
84.	5,092,103		86.	31	
40.	52,954	3	87.	41	
41.	82,304	6	88.	743	
42.	30,411	• 2	89.	6,541	
44.	125		90.	13	
45.	456		91.	17	
46.	156		92.	29	
51.	192		93.	13	
60.	1,080	38	94.	17	
61.	2,052	394	95.	23	
62.	595	418	103.	8,098	6
63.	1,001	265	104.	3,380	29
64.	1,636	314	105.	33	35
65.	12,654	2	106.	801	22
66.	20,160	4444	107.	2,637	22
67.	99,891,686	2955	108.	139	31
69.	8,765 acres		109.	223	24
70.	\$500		110.	89	10
71.	23		111.	57	12
72.	24		112.	75	43
73.	73		114.	40,276	3
74.	75		117.	30	78654321
75.	83		119.	28	275
76.	19 miles		121.	83	3087
80.	47		123.	300	9999
81.	757		124.	2,010	7080
82.	856		125.	10,865	25821
83.	345				

EXAMPLES IN THE FOREGOING PRINCIPLES, page 57.

1.	42	11.	12
2.	24	13.	\$864
3.	\$1,280 and \$2	14.	\$348
5.	\$54,750	15.	5
8.	10	16.	7
9.	138		

## REDUCTION.

## ARTICLE 90.

Example.

4.

26,666qr. |

Example.

5.

30,755qr.

## 93.

4.

88£ 4s. 6d. 1qr. |

7.

15£ 12s. 2d.

5.

129£ 17s. 6d. 3qr. |

8.

439£ 13s.

6.

362£ 2s. 2d. |

## 94.

5.

15lb. 3oz. 4dwt. 6gr. |

8.

48

6.

90,399gr. |

## 95.

5.

152lb. 2½ 73 2½ 3gr. |

6.

159,835gr.

## 96.

5.

75,975lb. |

8.

3t. 8cwt. 7lb. 5oz. 12dr.

6.

8t. 17cwt. 3qr. 21lb. |

9.

9

7.

2,047,999dr. |

11.

3t. 13cwt. 2qr. 5lb. 8oz.

## 97.

6.

13yd. 3qr. |

9.

\$206

7.

699na. |

10.

489yd.

8.

18 |

## 98.

4.

4yd. 1ft. 1in. 2b.c. |

6.

25,000

5.

2,531,840 |

## 99.

5.

139,574li. |

8.

50

6.

1m. 5fur. 4ch. 3rd. |

9.

\$614

7.

184,000 |

10.

79m. 5fur. 4ch. 3rd. 7li.

## 100, 102.

4.

6sq. m. 65a. 1r. 33sq. rd. |

8.

3ft.

5.

\$1,170 |

9.

25ft.

**103, 105.**

Example.

4.	5t. 25cu. ft. 864c. in.
6.	2,430
8.	4ft.

Example.

9.	8in.
11.	4ft.
12.	3,240

**106.**

4.	234gal. 1qt.	6.	69
5.	40		

**107.**

4.	123bush. 1pk. 2qt. 1pt.	8.	\$ 14
5.	73bush. 1pk. 5qt.	9.	540bush. 4qt. 1pt.
6.	1,021	10.	4079pt.
7.	1,567		

**108.**

4.	4d. 8h. 34m. 47sec.	8.	31C. 53yr. 10cal. m.
5.	31,556,930sec.	9.	3wk. 6d. 23h. 59m. 59sec.
6.	8l. m. 1wk. 6d. 23h. 38m.	10.	3,012,050sec.
7.	6,680		

**109.**

4.	5circ. 9s. 9° 8' 45"	6.	3quad. 3° 30' 27"
5.	1,008,485		

**110.**

1.	11	2.	1,895
----	----	----	-------

**MISCELLANEOUS EXAMPLES IN REDUCTION.**

1.	26,619qr.	15.	9lb. 6oz. 7dwt. 8gr.
2.	1215pt.	16.	413,754sq. rd.
3.	3,958,406dr.	17.	374,975c. in.
4.	17t. 19cwt. 18lb. 4oz.	18.	5,184sq. in.
5.	2wk. 4d. 6h. 4m. 8sec.	19.	132gi.
6.	4lb. 3oz. 5dr. 2sc. 18gr.	20.	1,756,816sec.
7.	3,097,530"	21.	1,599rd.
8.	29,770 li.	22.	11m. 6fur. 35rd.
9.	84,383gr.	23.	283na.
10.	36,686gr.	24.	1m. 2fur. 8ch. 3rd. 6 li.
11.	1sq. yd. 8sq. ft. 100sq. in.	25.	103bush. 3qt.
12.	25yd. 2qr. 3na.	26.	3circ. 4s. 13° 24' 54"
13.	7£ 14s. 10d.	27.	146gal. 1qt.
14.	36t. 1cwt. 1qr. 22lb. 15oz.	28.	4c. yd. 4cu. ft. 1725c. in.
	2dr.	29.	8sq. m. 20a. 3r. 36sq. rd.

**116.**

Example.

5.	3, 3, 5, 7, 11
6.	2, 2, 2, 3, 3, 5, 5, 11
7.	2, 2, 2, 2, 2, 3, 3, 5
8.	2, 3, 3, 5, 5, 7
9.	2, 3, 5, 7, 11
10.	2, 2, 2, 2, 2, 2, 3, 3, 3
11.	2, 2, 2, 3, 3, 5, 5

Example.

12.	2, 2, 2, 2, 3, 3, 17
13.	2, 2, 2, 3, 3, 67
14.	2, 2, 2, 2, 2, 2, 3, 19
15.	2, 2, 2, 1087
16.	2, 2, 2, 2, 2, 227
17.	5, 5, 7, 29

**120, 123.**

7.	8	15.	63
8.	15	17.	6
9.	5, 7, and 8	18.	7
13.	91	20.	1
14.	48		

**127, 128.**

3.	330	10.	38,808
4.	720	12.	1,800
5.	1,200	15.	450
6.	225	17.	1,800
7.	3,150	19.	504
8.	576	20.	231
9.	10,080		

**COMMON FRACTIONS.****139.**

7.	$\frac{47}{8}$	18.	$1\frac{52}{9}$
8.	$\frac{48}{5}$	19.	$1\frac{48}{7}$
9.	$\frac{82}{7}$	20.	$8\frac{12}{24}$
10.	$10\frac{2}{3}$	21.	$2\frac{22}{3}$
11.	$11\frac{5}{6}$	22.	$8\frac{35}{18}$
12.	$\frac{24}{8}$	23.	$14\frac{01}{8}$
13.	$13\frac{2}{8}$	24.	$20\frac{21}{24}$
14.	$17\frac{5}{12}$	25.	$16\frac{61}{18}$
15.	$32\frac{4}{20}$	26.	$23\frac{23}{24}$
16.	$18\frac{1}{10}$	28.	$7\frac{2}{8}$
17.	$12\frac{3}{10}$	29.	$4\frac{4}{5}$

Example.

31.

32.

33.

1562

16

84

Example.

34.

35.

14, 28, 42, 56, 70

80

100

## 140.

6.

7.

8.

5164

1

811

9.

10.

11.

74

3

72

## 141.

6.

7.

8.

9.

10.

3

8

211

113

111

11.

12.

13.

14.

15.

3

14

21

1

111

## 142.

11.

12.

17.

18.

38

88

411

208

20.

24.

25.

63

376

166

## 143.

4.

5.

6.

10.

11.

35

33

12

353

10

384

16.

20.

23.

24.

27

818

22

32

## 144.

5.

6.

11.

12.

13.

17.

18.

21.

21

165

414

425

35

1

35

6

15

15

25.

27.

28.

30.

31.

34.

38.

39.

140

1071

33

7

1rd.

3

\$27

\$113

361

## 145.

3.

4.

6.

58

104

104

9.

10.

14.

33

37

2

Example.

15.	4
16.	2
18.	$\frac{1}{2}$
20.	$\frac{1}{3}$

Example.

21.	\$3
22.	\$3
27.	38m.
28.	57

## 146.

4.	$\frac{2}{3}$
5.	$\frac{3}{4}$
6.	$\frac{1}{2}$
7.	$\frac{1}{3}$
8.	$\frac{2}{3}$

9.	$\frac{1}{2}$
10.	$\frac{2}{3}$
11.	$\frac{1}{4}$
13.	$\frac{3}{8}$

## 147.

6.	176, 130, 338
7.	262, 188, 288
8.	1838, 3510, 1080
9.	888, 888, 888
10.	2578, 1284, 1408
11.	584, 702, 910, 890
12.	1170, 1170, 1170, 1170
13.	1848, 1848, 1848, 1848
14.	8132, 8132, 8132, 8132
15.	83342, 78200, 77625
16.	527850, 527850, 527850
17.	227850

15.	85200, 33400, 7958
16.	85200
17.	12, 36, 14, 2
18.	240, 240, 240, 240
19.	30, 30, 30, 30
20.	15, 30, 10, 15
21.	80, 80, 80, 80
22.	80, 80, 80, 80
23.	80, 80, 80, 80
24.	80, 80, 80, 80
25.	80, 80, 80, 80
26.	80, 80, 80, 80
27.	80, 80, 80, 80
28.	80, 80, 80, 80
29.	80, 80, 80, 80
30.	80, 80, 80, 80
31.	80, 80, 80, 80
32.	80, 80, 80, 80
33.	80, 80, 80, 80
34.	80, 80, 80, 80
35.	80, 80, 80, 80
36.	80, 80, 80, 80
37.	80, 80, 80, 80
38.	80, 80, 80, 80
39.	80, 80, 80, 80
40.	80, 80, 80, 80
41.	80, 80, 80, 80
42.	80, 80, 80, 80
43.	80, 80, 80, 80
44.	80, 80, 80, 80
45.	80, 80, 80, 80
46.	80, 80, 80, 80
47.	80, 80, 80, 80
48.	80, 80, 80, 80
49.	80, 80, 80, 80
50.	80, 80, 80, 80

## 148.

10.	$\frac{1}{2}$ gi.
11.	$\frac{1}{4}$ c. in.
12.	$\frac{1}{8}$ sq. yd.
15.	$\frac{1}{16}$ sq. yd.
16.	$\frac{1}{32}$ in.

17.	432000"
18.	108000oz.
19.	10800sec.
20.	$\frac{1}{2}$ qr.
21.	$\frac{1}{4}$ pt.

## 149.

7.	$\frac{1}{2}$ lb.
8.	$\frac{1}{4}$ d.
9.	$\frac{1}{8}$ yd.
10.	$\frac{1}{16}$ wk.

11.	$\frac{1}{2}$ sq. yd.
12.	$\frac{1}{4}$ fur.
14.	$\frac{1}{8}$ os.
15.	$\frac{1}{16}$ gal.

## 150.

5.	4d. 4h. 48m.
6.	5yd. 1ft. 4in. 2. b.c.
7.	6s. 14° 47'
8.	5cwt. 3qr. 8lb. 5oz. 5½dr.
9.	8oz. 4dr. 2sc. 10gr.
10.	2a. 20° 10' 25"
11.	189d. 6h. 13m. 20sec.

12.	6oz. 8dwt. 4gr.
13.	3pk. 1qt. ¾pt.
14.	1qt. 3½gi.
15.	2oz. 4dr.
16.	2fur. 2ch. 22 li. 1½in.
17.	4c. ft. 4cu. ft. 460½c. in.
18.	1qr. 2na. ½in.

## 151.

Example.

8.	$\frac{3}{4}$ bush.
9.	$\frac{1}{2}$ circ.
10.	$\frac{1}{2}$ l.
11.	$\frac{1}{2}$ yd.
12.	$\frac{1}{4}$ J. yr.

Example.

13.	$\frac{3}{4}$ gal.
15.	$\frac{1}{2}$ lb.
16.	$\frac{1}{2}$ m.
17.	$\frac{1}{2}$ t.

## 152.

6.	$\frac{1}{4}$
7.	$\frac{1}{4}$
9.	$\frac{1}{4}$
10.	$\frac{2}{3}$
11.	$\frac{1}{2}$
13.	$\frac{5}{10}$
16.	$\frac{1}{3}$
18.	$\frac{1}{3}$
20.	$\frac{1}{2}$
22.	$\frac{5}{12}$
25.	$\left\{ \begin{array}{l} \frac{1}{2} \text{ bush.} \\ \frac{1}{8} \text{ pk.} \\ \frac{1}{10} \text{ qt.} \end{array} \right.$

26.

29.

32.

33.

34.

35.

36.

37.

38.

$\left\{ \begin{array}{l} \frac{3}{4} \text{ t.} \\ \frac{1}{2} \text{ cwt.} \\ \frac{1}{10} \text{ qr.} \end{array} \right.$	$\frac{1}{2}$
$\frac{4}{8}$	$\frac{4}{8}$
$\frac{48}{11}$	$\frac{47}{11}$
$\frac{38}{14}$	$\frac{37}{14}$
$\frac{7}{7}$	$\frac{13}{8}$
$\frac{41}{8}$	$\frac{35}{18}$

## 153.

3.	$\frac{1}{2}$
4.	$\frac{3}{4}$
5.	$\frac{1}{2}$
6.	$\frac{1}{2}$
8.	$\frac{1}{2}$
9.	$\frac{1}{2}$
10.	$\frac{2}{3}$
13.	$\frac{1}{2}$
16.	$\frac{1}{2}$
17.	$\frac{1}{2}$
20.	$\frac{1}{2}$
23.	$\frac{1}{2}$

24.

25.

26.

29.

32.

34.

37.

41.

43.

$\frac{1}{2}$	$\frac{1}{2}$
$\frac{2}{3}$	$\frac{2}{3}$
$\frac{3}{4}$	$\frac{3}{4}$
$\frac{1}{10}$	$\frac{1}{10}$
$\left\{ \begin{array}{l} \frac{1}{2} \text{ t.} \\ \frac{1}{2} \text{ cwt.} \\ \frac{1}{10} \text{ wk.} \\ \frac{1}{10} \text{ d.} \\ \frac{1}{10} \text{ h.} \end{array} \right.$	$\frac{1}{2}$
$\frac{7}{8}$	$\frac{7}{8}$
$\frac{5}{6}$	$\frac{5}{6}$

## MISCELLANEOUS EXAMPLES IN FRACTIONS, page 121.

2.	$\frac{1}{2}$
3.	$\frac{1}{2}$
4.	$\frac{15}{104}$
5.	$\frac{7}{137}$
6.	$\frac{2}{12}$
7.	$\frac{2}{27}$

8.	$\frac{1}{2}, \frac{1}{3}, \frac{2}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}$
9.	$\frac{1}{2} = \frac{1}{2}$
10.	$\frac{1}{2}$
11.	$\frac{1}{2}$
12.	10h. 17m. $\frac{8}{3}$ sec.
13.	$\frac{1}{2}$ bush.

Example.

14.	86
15.	$2\frac{1}{2}$
16.	$\frac{3}{4}$
17.	30
18.	$14\frac{3}{4}$
19.	36
20.	2
21.	$\frac{1}{2}$
22.	$\frac{1}{2}$
23.	$\frac{1}{2}$
24.	$\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$
25.	$\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$
26.	$\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$
27.	$\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$
28.	$\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$

Example.

29.	$\frac{3}{4}$
30.	$\frac{3}{4}$ qt.
31.	$\frac{1}{4}$ wk.
32.	$\frac{1}{2} = 3\frac{1}{2}$
33.	25
34.	15
35.	$\frac{7}{8} = 9\frac{3}{8}$
36.	$\frac{1}{2}$
37.	$\frac{3}{4}$ £, $7\frac{1}{2}$ s., $92\frac{3}{4}$ d.
38.	$\frac{1}{4}$ gal., $1\frac{1}{2}$ qt., $3\frac{1}{2}$ pt., $13\frac{1}{2}$ gi.
39.	$\frac{1}{2} = 1\frac{1}{2}$
40.	$\frac{3}{4} = \frac{1}{2}$
41.	$\frac{1}{2}$
42.	$\frac{3}{4}$ , i. e. the whole

## 154.

3.	\$128
4.	14c.
7.	10
8.	10
10.	72c.
11.	\$120
12.	390
14.	\$41
15.	\$29280
16.	30m.
17.	5
18.	$5\frac{1}{2}$ d.
19.	50c.
20.	66c.
21.	3
22.	75c.
23.	\$25
24.	\$28
26.	\$15 $\frac{1}{2}$
27.	12026 $\frac{3}{4}$
29.	96
30.	\$7285 $\frac{1}{2}$
31.	17m.
32.	10a.
33.	27
34.	31 $\frac{3}{4}$ ft.
35.	125 $\frac{1}{2}$ ft.

36.	\$50
37.	804 lb. ; \$201
39.	148
42.	4
45.	4
47.	2
48.	20
52.	\$41 $\frac{1}{2}$
53.	159lb. ; \$39 $\frac{1}{2}$
55.	42
56.	160
57.	150rd.
58.	20
59.	7
64.	4days.
65.	20days
66.	\$80
68.	32
69.	\$4513 $\frac{1}{2}$
70.	\$12 $\frac{1}{2}$
71.	62 $\frac{1}{2}$
72.	11
73.	16
74.	8
75.	9
76.	2 $\frac{1}{2}$ yd.

## DECIMAL FRACTIONS.

## 169.

Example.

4.	2391547.859278
5.	1536850.22677657941
7.	785.97943
8.	8031.0744

Example.

9.	3653.24742
11.	2101.394
12.	1874.00697

## 170.

5.	1315.5946648	9.	9.999994
6.	4418.294	10.	.39
7.	416.4929		

## 171.

11.	19.9893954	19.	23648700
12.	.0000793098	20.	37428000
13.	.0248999064	24.	11022
14.	0009108027	25.	22029560
17.	9876.5	27.	.0000000000884
18.	34869000	28.	421000

## 172.

7.	.0065	17.	.48
8.	36.4	19.	.48666+
9.	3.76	20.	1.59655+
10.	4.78	23.	8.469
13.	1125	24.	.005647
14.	.01625	27.	.007053375
15.	45	28.	.06081+
16.	34.8	30.	1767.5

## 173.

5.	2.40625	9.	.5, .4, .375, .8125, .109375, .28, .34
----	---------	----	--

## 174.

13.	$\frac{1}{10}, \frac{1}{20}, \frac{1}{4000}, \frac{1}{100}$	15.	$\frac{3}{4}, \frac{1}{4}, \frac{3}{4}, \frac{7}{8}, \frac{1}{10}$
-----	---	-----	--

## 175.

4.	.18525	11.	.4825
6.	.546875	12.	.29938+
9.	.32325+	13.	.91632+
10.	.65625	14.	.72193+

**176.**

Example.

- |    |                    |
|----|--------------------|
| 3. | 1qt. 1pt. 1gi.     |
| 5. | 3qr. 2na. 1.125in. |
| 7. | 7cwt. 2qr.         |

Example.

- |     |                            |
|-----|----------------------------|
| 8.  | 5oz. 11dwt. 19.008gr.      |
| 9.  | 2fur. 34rd. 4yd. 11.232in. |
| 10. | 6oz. 5dr. 2sc. 17.12gr.    |

**MISCELLANEOUS EXAMPLES IN DECIMAL FRACTIONS, p. 142.**

- |     |   |     |                         |
|-----|---|-----|-------------------------|
| 3.  | \$500                                   | 18. | \$0.28875               |
| 4.  | \$62.50                                 | 19. | 11s. 4d. 2.25qr.        |
| 5.  | 8                                       | 20. | 1s. 8d. 1.9375qr.       |
| 6.  | 8                                       | 21. | 19£ 8s. 10d. 2.34375qr. |
| 7.  | Gain, \$100 total, \$12.50<br>per acre. | 22. | 286d. 17h. 18m. 36sec.  |
| 8.  | \$1755                                  | 23. | \$106.10                |
| 9.  | \$22.6875                               | 24. | \$33.75                 |
| 10. | \$73.50                                 | 25. | 73.5m.                  |
| 11. | \$48.4375                               | 26. | 45                      |
| 12. | \$141126.5625                           | 27. | 13                      |
| 13. | \$142                                   | 28. | 11.5                    |
| 14. | 62c.                                    | 29. | 51.1                    |
| 15. | 6a. 2r. 2.875rd.                        | 30. | \$9.15                  |
| 16. | \$756                                   | 31. | 20c.                    |
| 17. | \$5.775                                 | 32. | 133.125ft.              |
|     |   | 33. | \$34.375                |

**UNITED STATES MONEY.****186.**

- |    |                   |    |        |
|----|-------------------|----|--------|
| 4. | 48300c.; 483000m. | 6. | 1876m. |
| 5. | 684c.; 6840m.     |    |        |

**187.**

- |    |          |     |          |
|----|----------|-----|----------|
| 9. | \$876.94 | 10. | \$76.843 |
|----|----------|-----|----------|

**188.****ADDITION.**

- |    |            |    |         |
|----|------------|----|---------|
| 2. | \$1953.294 | 5. | \$33.50 |
| 3. | \$60829.18 |    |         |
|    | 2*         |    |         |

## SUBTRACTION.

Example.

2.	\$16.44	Example.	5.	\$2208.50
3.	\$42.117			

## MULTIPLICATION.

2.	\$8978821.875	5.	\$15581.25
3.	\$1618781.598		

## DIVISION.

3.	\$201.35
----	----------

## PRACTICAL EXAMPLES, p. 149.

8.	\$156.25	26.	\$6
4.	\$69.75	27.	\$9
5.	\$2812.50	28.	\$25
9.	\$8.50	29.	\$20
10.	\$54.75	30.	\$204
13.	81	34.	\$40.13
14.	45	35.	\$1187.55
15.	25	38.	3.5
19.	\$120		

## MISCELLANEOUS EXAMPLES IN U. S. MONEY, p. 156.

1.	\$1.96	21.	16
2.	\$22.88	22.	\$6851
3.	\$5.62½	23.	13.5m.
4.	\$1.12½	24.	75
5.	\$340.05	25.	50c. per head; \$50 total.
7.	\$65.63	26.	\$253.69
8.	28756m.	27.	\$4234.375
9.	6180m.	28.	\$62.50
10.	\$545.98	29.	67.75
11.	\$47.689	30.	67.75
12.	\$1862.25	31.	Gain, \$846.875 total; \$12.50 per acre.
13.	\$4250	32.	\$233.59
14.	\$47	33.	\$2.07
15.	\$16.25	34.	\$584.27
16.	11	37.	\$36.87
17.	6	38.	\$8.26
18.	\$109.06	39.	\$51.68
19.	\$24.74		
20.	\$174		

## COMPOUND NUMBERS.

## ADDITION.

Example.

- |     |                             |
|-----|-----------------------------|
| 5.  | 27lb. 6oz. 7dwt. 11gr.      |
| 6.  | 30gal. 1pt. 2gi.            |
| 7.  | 21a. 2r. 37rd.              |
| 8.  | 25lb. 11oz. 6dr. 4gr.       |
| 9.  | 29bush. 2qt. 1pt.           |
| 10. | 18c. 6c.ft. 6cu.ft. 36c.in. |
| 11. | 21 l. m.                    |
| 12. | 19t. 7cwt. 10lb. 2oz.       |
| 13. | 15circ. 5s. 28° 39' 16"     |
| 14. | 26yd. 3qr. 3na. 1in.        |

Example.

- |     |                             |
|-----|-----------------------------|
| 18. | 8m. 6fur. 8rd. 11ft. 6in.   |
| 19. | 26t. 2cwt. 3qr. 19 lb. 5oz. |
| 20. | 27bush. 2pk. 3qt.           |
| 21. | 55yd. 3qr. 2na. 1½in.       |
| 22. | 174bush. 3q. 1pt.           |
| 23. | 45t. 7cwt. 2qr. 18 lb.      |
| 24. | 128a. 2r. 35rd. 16yd. 36in. |
| 25. | 19circ. 13° 56' 34"         |
| 26. | 161m. 7fur. 21rd. 3yd.      |
| 27. | 23t. 4cwt. 3qr. 10lb.       |

## SUBTRACTION.

- |     |                                       |
|-----|---------------------------------------|
| 5.  | 9yd. 2qr. 1½in.                       |
| 6.  | 4 l. 1fur. 32rd. 2yd. 2ft.<br>3in.    |
| 7.  | 4a. 2r. 26rd. 24yd. 4ft.<br>138in.    |
| 8.  | 8gal. 2qt. 1pt. 1gi.                  |
| 10. | 20c. 5c. ft. 10cu. ft. 1558<br>c. in. |
| 11. | 100bush. 1pk. 6qt.                    |
| 12. | 1wk. 5d. 7h. 14m. 45sec.              |

- |     |   |
|-----|---|
| 16. | 4circ. 331° 69m. 4fur.<br>39rd. 5yd. 2ft. |
| 19. | 6yr. 6m.                                  |
| 20. | 25yr. 8m. 8d.                             |
| 21. | Variable                                  |
| 22. | 70yr. 9m. 6d.                             |
| 23. | 4yr. 2m. 3d.                              |
| 24. | 5y. 8m. 8d.                               |
| 25. | 8yr. 3m. 10d.                             |
| 26. | 24yr. 5m. 29d.                            |
| 27. | 17yr. 7m. 29d.                            |

EXAMPLES IN ADDITION AND SUBTRACTION, p. 165.

- |    |                    |
|----|--------------------|
| 2. | 25m. 2fur.         |
| 3. | 35a. 3r.           |
| 6. | 3yd. 3qr. 3n. ¼in. |

- |    |                         |
|----|-------------------------|
| 7. | 19cwt. 3qr. 3lb.        |
| 8. | 44gal. 3qt. 2gi.        |
| 9. | 37lb. 1oz. 19dwt. 17gr. |

## MULTIPLICATION.

- |     |                             |
|-----|-----------------------------|
| 5.  | 17lb. 5oz. 1dr. 1sc. 10gr.  |
| 6.  | 30t. 5cwt. 3qr. 24lb. 12oz. |
| 7.  | 60yd. 2qr. 3na.             |
| 8.  | 3wk. 6d. 14h. 17m. 57sec.   |
| 9.  | 57circ. 2s. 25° 4' 10"      |
| 10. | 107gal. 1qt.                |
| 11. | 98bush. 3pk. 2qt. 1pt.      |

- |     |                                     |
|-----|-------------------------------------|
| 12. | 51c. 7c.ft. 15cu.ft. 1716c.in.      |
| 13. | 32a. 2yd. 8ft. 140in.               |
| 15. | 16m. 5fur. 26rd. 4yd. 2in.<br>1b.c. |
| 16. | 68a. 2r. 27rd. 13yd. 2ft.<br>36in.  |
| 18. | 20° 2' 49"                          |

Example.

19. 52m. 5fur. 86rd. 1yd. 2in.  
 20. 232m. 3fur. 25rd.  
 21. 27t. 16cwt. 1qr.  
 22. 5£ 8s. 11d. 1qr.  
 23. 86gal. 3qt. 2gi.  
 24. 79m. 7fur. 1ch. 1rd. 1li.  
      $\frac{1}{2}$ in.  
 25. 31circ. 4s. 17° 45' 45"  
 27. 396£ 2s. 3d.  
 28. 725bush. 6qt. 1pt.

Example.

29. 314lb. 3oz. 4dr. 1sc. 14gr.  
 31. 731yd. 1qr. 3na.  
 32. 1179gal. 3qt. 2gi.  
 34. 35334bush. 3pk. 3qt. 1pt.  
 35. 10599m. 14rd. 4yd. 2ft. 5in.  
 36. 339° 43' 30"  
 37. 8468gal. 1pt. 2gi.  
 41. 49m. 44sec.  
 42. 7h. 59m. 40sec.  
 43. 6h.

## DIVISION.

- |   |  |
|---|--|
| 4. 4lb. 6oz. 8dwt. 20gr.                  | 18. 2t. 3cwt. 2qr. 15lb.                             |
| 5. 2lb. 10oz. 6dr. 2sc. 15gr.             | 19. 5cwt. 3qr. 20lb.                                 |
| 6. 3t. 15cwt. 2qr. 24lb. 15oz.<br>8dr.    | 20. 15bush. 3pk. 6qt. 1pt.                           |
| 7. 6yd. 2qr. 3na. 2in.                    | 21. 30m. 2fur. 20rd. 5yd.                            |
| 8. 1wk. 2d. 4h. 45m. 59sec.               | 22. 9£ 12s. 6d. 3qr.                                 |
| 9. 5circ. 8s. 20° 30' 25"                 | 24. 7£ 6s. 8d. 2qr.                                  |
| 10. 8gal. 3qt. 1pt. 2gi.                  | 25. 8bush. 3pk. 6qt. 1pt.                            |
| 11. 8bush. 3pk. 7qt. 1pt.                 | 26. 6lb. 3oz. 6dr. 1sc. 8gr.                         |
| 12. 12c. 7c. ft. 15cu. ft. 1725<br>c. in. | 27. 19m. 7fur. 7ch. 3rd. 6li.<br>4 $\frac{2}{3}$ in. |
| 13. 8a. 6ft. 107in.                       | 29. 1£ 2s. 6d. 3qr.                                  |
| 14. 4t. 3cwt. 2qr. 14lb. 8oz.<br>4dr.     | 30. 15gal. 1qt. 1pt. 3gi.                            |
| 15. 11a. 3r. 35rd. 21yd. 4ft.<br>108in.   | 31. 54bush. 3pk. 6qt. 1pt.                           |
| 17. 4gal. 3qt. 1pt. 3gi.                  | 32. 33m. 6fur. 36rd. 1ft. 5in.<br>2° 40' 30"         |
|   | 33. 2° 20' 15" east                                  |
|   | 37. 57° 19'  |
|   | 38.  |

## 215.

- |                 |                   |
|-----------------|-------------------|
| 3. 31ft. 2' 11" | 4. 5ft. 8' 1" 10" |
|-----------------|-------------------|

## 219.

- |                     |  |
|---------------------|--|
| 6. 51ft. 8'         | 11. 3c. 6c. ft. 13 $\frac{1}{2}$ cu. ft. |
| 7. 38ft. 6'         | 12. 33                                   |
| 8. 1308ft. 10' 8"   | 13. 31ft. 0' 2" 2"                       |
| 10. 87ft. 11' 6" 8" |  |

## 220.

- |                   |             |
|-------------------|-------------|
| 2. 3ft. 11' 4" 1" | 5. 33ft. 6' |
| 3. 7ft. 6' 8" 3"  |             |

## MISCELLANEOUS EXAMPLES IN COMPOUND NUMBERS, p. 181.

Example.

1. 118bush. 3pk. 4qt. 1pt.
2. 35m. 7fur. 4rd. 3yd. 1ft.  
6in.
3. 20£ 12s. 2d. 3<sup>4</sup>/<sub>157</sub>qr.
4. 6ft. 4in.
5. 2343.75lb.
6. 5wk. 1d. 1h. 3m. 43sec.
7. 5h. 25m. 48sec.
8. 116° 27' east
9. 146d. 17h 10m. 5sec.
10. 46c.
11. 20lb. 3oz. 4<sup>2</sup>/<sub>5</sub>dr.

Example.

12. 3d. 13h. 42<sup>3</sup>/<sub>4</sub>m.
13. 927m. 1fur. 20rd.
14. 32m. 10rd.
15. Gained 22£ 13s. 9d.
16. 1585ft. 4'
19. 24306<sup>8</sup>/<sub>25</sub>
20. 462<sup>7</sup>/<sub>8</sub>
21. 6<sup>3</sup>/<sub>8</sub>m.
22. 18<sup>1</sup>/<sub>4</sub> = 18d. 6h. 13m.  
20sec.
23. 61<sup>1</sup>/<sub>2</sub>lb. = 61lb. 11oz.  
6<sup>3</sup>/<sub>4</sub>dr.

## PER CENTAGE.

## 225.

2. .08, .12, .165, .25, .72 | 3.  $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$

## 226.

- |     |       |     |            |
|-----|-------|-----|------------|
| 4.  | \$20  | 13. | 1211650    |
| 9.  | 300   | 14. | \$3128.72  |
| 10. | 8     | 15. | \$51774.45 |
| 11. | 9     | 16. | 96         |
| 12. | 20277 |     |            |

## 227.

- |    |                                |     |                                |
|----|--------------------------------|-----|--------------------------------|
| 5. | 10                             | 10. | 65                             |
| 6. | 25                             | 11. | 16 <sup>2</sup> / <sub>3</sub> |
| 9. | 66 <sup>2</sup> / <sub>3</sub> |     |                                |

## 228.

- |    |      |     |        |
|----|------|-----|--------|
| 5. | \$50 | 10. | 200    |
| 7. | 625  | 12. | \$2400 |
| 8. | 2400 | 13. | 3845   |

## INTEREST.

- |    |                                     |     |                                     |
|----|-------------------------------------|-----|-------------------------------------|
| 6. | \$0.257 <sup>1</sup> / <sub>2</sub> | 9.  | \$0.175 <sup>1</sup> / <sub>2</sub> |
| 7. | \$0.287                             | 10. | \$0.100 <sup>1</sup> / <sub>2</sub> |
| 8. | \$0.656 <sup>1</sup> / <sub>2</sub> | 15. | 26 <sup>1</sup> / <sub>2</sub>      |

Example.

16.	\$78.40
23	\$43.509
24.	47.438
25.	\$19.64
26.	\$12.129
27.	14.915
28.	\$47.504
31.	\$21.557
32.	\$18.542
33.	\$35.465
34.	\$7.417
36.	33£ 19s. 1d.

Example.

37.	10£ 6s. 9d. 2qr.
40.	\$29.858
42.	15£ 18s. 3d. 3qr.
45.	\$52.68
46.	\$393.192
48.	\$36.348
49.	\$213.438
50.	94£ 9s. 5d. 1qr.
74.	\$35.80
75.	\$8.325
76.	\$17.30
82.	\$8008.545

**246.**

3.	7   4	7.3
----	-------	-----

**247.**

5.	2yr. 6m.   9.	16. 8m.
6.	2yr. 9m.   10.	40yr.

**248.**

3.	\$3750   4.	\$33333.333
----	-------------	-------------

**248 a.**

3.	\$60   4.	\$40
----	-----------	------

## COMPOUND INTEREST.

**250.**

12	\$94.793   17.	\$274.572
16.	\$1400.605   20.	\$574.349

## DISCOUNT.

7.	{ \$450   12.	\$432.253
	{ \$40.50   13.	\$81.455
8.	\$15   14.	\$415.936
11.	\$42.792	

## BANKING AND BANK DISCOUNT.

**253 b.**

3.	{ \$177.243, discount   4.	{ \$33.31, discount
	{ \$8468.757, proceeds	{ \$1808.69, proceeds

Example.

5.	{ \$12.429, discount
6.	{ \$476.571, proceeds
7.	\$620.823
	\$7.251

Example.

9.	\$6876.045
10.	\$71.25
11.	\$230

**253 c.**

2.	\$304.723	4.	\$1222.099
3.	\$600		

## INSURANCE.

3.	\$28	7.	\$900
4.	\$13.25	9.	\$92.65
5.	\$1125		

## STOCKS.

**264.**

4.		\$250
----	--	-------

**265.**

4.	\$1125	5.	\$270
----	--------	----	-------

**266.**

4.		25
----	--	----

## COMMISSION AND BROKERAGE.

**268.**

2.	\$37.84	5.	\$13.50
4.	\$5.31	6.	\$42

**269.**

3.	\$40000 ; \$100	4.	\$4611.65 ; \$250 ; \$138.35
----	-----------------	----	------------------------------

## TAXES.

2.	B's tax \$195.30 ; C's \$335.45 ; D's 426.05 ; E's \$83.80 ; F's \$278.50.
----	--

## CUSTOM-HOUSE BUSINESS.

**281.**

3.	\$2075.40	4.	\$4416
----	-----------	----	--------

**283.**

2.	\$3920	5.	\$2109
4.	\$449.28		

## EXCHANGE.

Example.

3.

\$8158.50

Example.

4.

\$7928.50

## EQUATION OF PAYMENTS.

## 299.

3.

8m. 18d.

## 301.

2.

Aug. 29.

## 302.

7.

Mar. 27, 1861.

## PROFIT AND LOSS.

## 304.

3.

Lost { \$6.13½ total  
1½c. per lb.

4.

Gained \$30.75

## 305.

3.

25

5.

3

4.

20

## 306.

4.

18½c.

5.

\$3612.50

## 307.

4.

\$100

5.

10c.

## 308.

4.

Gained 4 per cent.

5.

Lost 10 per cent.

## 309.

4.

\$5

5.

\$10

## MISCELLANEOUS EXAMPLES, p. 247.

1.

Gained \$1.50

5.

16½

2.

12½

6.

\$48

3.

\$9

7.

Lost 4½ per cent.

4.

\$4

8

\$98

## PARTNERSHIP.

## 312.

Example.

3.  $\begin{cases} A \$200 \\ B \$250 \\ C \$300 \end{cases}$
4.  $\begin{cases} A \$1000 \\ B \$1666.66\frac{2}{3} \\ C \$1333.33\frac{1}{3} \end{cases}$
5.  $\begin{cases} A \frac{6}{16} = \$1875 \\ B \frac{3}{16} = \$937.50 \\ C \frac{7}{16} = \$2187.50 \end{cases}$
6.  $\begin{cases} A \$300 \\ B \$450 \\ C \$750 \end{cases}$

Example.

7.  $\begin{cases} A \frac{3}{15} = \$18 \\ B \frac{5}{15} = \$30 \\ C \frac{7}{15} = \$42 \end{cases}$
8.  $\begin{cases} A \$4.66\frac{2}{3} \\ B \$7.33\frac{1}{3} \end{cases}$
9.  $\begin{cases} A \$600 \\ B \$1000 \\ C \$1400 \\ D \$2200 \end{cases}$
10.  $\begin{cases} A \frac{3}{4} = \$180 \\ B \frac{2}{4} = \$120 \\ B's \text{ cloth, } \$3 \end{cases}$

## 313.

3.  $\begin{cases} A \$243 \\ B \$288 \\ C \$540 \end{cases}$
4.  $\begin{cases} A \frac{4}{16} = \$12 \\ B \frac{5}{16} = \$15 \\ C \frac{7}{16} = \$21 \end{cases}$
6.  $\begin{cases} B \frac{7}{131} = \$3600 \\ H \frac{6}{131} = \$3200 \\ L \frac{1}{131} = \$750 \end{cases}$

7.  $\begin{cases} A \frac{3}{23} = \$12 \\ B \frac{5}{23} = \$20 \\ C \frac{1}{23} = \$60 \end{cases}$
9. \$7500
10.  $\begin{cases} A \$1333.33\frac{1}{3} \\ B \$1350.87\frac{1}{3} \\ C \$1315.78\frac{2}{3} \end{cases}$
11.  $\begin{cases} B \frac{3}{11} = \$198.90\frac{9}{11} \\ C \frac{1}{11} = \$133.46\frac{4}{11} \end{cases}$

## 313 a.

1. \$77
2. \$392
3. 36
4. 519
5. 115
6. 115s.
7. \$500
8. 6
9. 10
10. \$49
11. 35ft.
12. 3½m.
13. 60
14. 3
15. 9

16. 3
18. 64
19. 39
20. 12
21.  $\begin{cases} 147000\text{lb., total} \\ 21000\text{lb., spoiled} \end{cases}$
22.  $\begin{cases} 147000\text{lb., total} \\ 126000\text{lb., left} \end{cases}$
23.  $\begin{cases} 147000\text{lb., total} \\ 14\text{oz., daily} \end{cases}$
24. \$8000
25.  $\begin{cases} 3\frac{2}{3}\text{m.} \\ 20\frac{1}{4}\text{h.} \end{cases}$
26. 4

## RATIO.

Example.

4.  
5.

$$\frac{2}{3} = \frac{4\frac{1}{2}}{6}$$

Example.

6.  
7.19 : 14  
5 : 4

## PROPORTION.

## 324.

3.

$$\frac{4 \times 9}{2} = 18$$

4.

$$\frac{16 \times 7}{14} = 8$$

## 331.

9.	\$45	44.	\$1242.15
12.	77	45.	3
13.	\$42	46.	30
14.	120	47.	\$300
15.	48	48.	\$50000
18.	15	49.	{ A \$16.83
20.	11		{ B \$29.07
21.	14	50.	104
22.	75£ 6s. 4d.	51.	\$147
23.	\$13825	52.	75½
24.	\$48	53.	21
25.	4	54.	49
26.	8m.	55.	10m.
27.	40	56.	80rd.
28.	6oz.	58.	12
29.	54	59.	36
30.	6	60.	9
31.	4	61.	8
32.	\$4.50	62.	1¼h.
33.	\$4500	63.	\$9.50
34.	\$15	64.	24d.
37.	240ft.	65.	9
38.	3ft.	66.	75.5
39.	\$51	67.	140d.
40.	\$1500	68.	\$37812.50
41.	\$9900	69.	\$10.125
42.	3	70.	3933m.
43.	6½		

**334.**

Example.

5.	14
6.	10 persons
12.	2
13.	\$12
14.	\$6
15.	8m.
16.	\$300
19.	12
20.	115
21.	16
22.	2

Example.

23.	6
24.	432
25.	6t.
26.	45
27.	1620
28.	32400
29.	\$240
30.	9
31.	\$289.35 $\frac{1}{2}$
32.	8

**ALLIGATION.****337.**

2.	67c.	3.	9c.
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**341.**

4	$\left\{ \begin{array}{l} 30\text{lb. at } 25\text{c.} \\ 14\text{lb. at } 33\text{c.} \\ 12\text{lb. at } 48\text{c.} \\ 12\text{lb. at } 56\text{c.} \\ 20\text{lb. at } 75\text{c.} \end{array} \right.$	5.	$\left\{ \begin{array}{l} 20 \text{ cows at } \$16 \\ 10 \text{ cows at } \$20 \\ 10 \text{ cows at } \$28 \\ 12 \text{ cows at } \$40 \\ 14 \text{ cows at } \$50 \end{array} \right.$
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**342.**

1.	$\left\{ \begin{array}{l} 15\text{lb. at } 4\text{c.} \\ 9\text{lb. at } 6\text{c.} \\ 6\text{lb. at } 9\text{c.} \\ 6\text{lb. at } 10\text{c.} \\ 12\text{lb. at } 13\text{c.} \end{array} \right.$	2.	$\left\{ \begin{array}{l} 15\text{gal. at } 8\text{s.} \\ 15\text{gal. at } 10\text{s.} \\ 90\text{gal. at } 15\text{s.} \\ 96\text{lb. at } 30\text{c.} \\ 36\text{lb. at } 40\text{c.} \\ 144\text{lb. at } 50\text{c.} \end{array} \right.$
		3.	

**343.**

1.	$\left\{ \begin{array}{l} 28\text{lb. at } 8\text{c.} \\ 4\text{lb. at } 11\text{c.} \\ 8\text{lb. at } 14\text{c.} \\ 20\text{lb. at } 20\text{c.} \end{array} \right.$	3.	$\left\{ \begin{array}{l} 45 \text{ sheep at } 9\text{s.} \\ 20 \text{ sheep at } 12\text{s.} \\ 15 \text{ sheep at } 16\text{s.} \\ 15 \text{ sheep at } 18\text{s.} \\ 30 \text{ sheep at } 24\text{s.} \end{array} \right.$
2.	$\left\{ \begin{array}{l} 12\text{lb. at } 16\text{carats} \\ 12\text{lb. at } 18\text{carats} \\ 12\text{lb. at } 20\text{carats} \\ 36\text{lb. at } 24\text{carats} \end{array} \right.$		

## INVOLUTION.

Example.

8.  
4.  
7.  
9.625  
256  
 $\frac{4}{2\frac{1}{2}}$   
.020736

Example.

11.  
15.  
17.  
18. $\frac{4096}{192} = 32\frac{2}{3}$   
 $\frac{2^{20}}{2^{20}}$   
 $8^3 = 64$   
 $4^4 = 256$ 

## EVOLUTION.

## SQUARE ROOT.

4.  
7.  
8.  
9.  
10.  
11.  
12.  
13.  
15.  
16.823  
369  
6482  
6561  
4692  
1234  
4321  
2468  
2401  
102417.  
19.  
21.  
25.  
26.  
29.  
31.  
32.  
34.16807  
.25  
77.76  
17.776+  
5.621+  
 $\frac{1}{2}$   
 $3\frac{1}{2}$   
 $\frac{8}{8}$   
.605+

## APPLICATION OF SQUARE ROOT, p. 282.

3.  
4.  
5.  
6.  
7.  
8.  
10.35ft.  
32ft.  
41m.  
99  
1280  
375000  
16in.11.  
13.  
14.  
15.  
16.  
19.30ft.  
45.135+rd.  
\$13.653+  
2in.  
40rd. wide; 200rd. long  
12.727+in.

## CUBE ROOT.

5.  
6.  
7.  
8.  
9.147  
726  
2002  
729  
51212.  
13.  
15.  
17.21.6  
3.43  
 $\frac{3^3}{2^3} = 8\frac{1}{2}$   
3.522+

## APPLICATION OF THE CUBE ROOT, p. 291.

3.  
4.  
5.64  
4in.  
886144m.6.  
8.  
9.4ft.  
12in., 9in., and  $\frac{2}{3}$ in.  
5in.

## ARITHMETICAL PROGRESSION.

	<b>369.</b>	
Example.		
3.		\$250
	<b>370.</b>	
3.		6 per cent.
	<b>371.</b>	
2.		10
	<b>372.</b>	
2.		78

## GEOMETRICAL PROGRESSION.

	<b>375.</b>	
4.		\$12.1550625
	<b>376.</b>	
8.		8 or $\frac{1}{2}$
	<b>377.</b>	
2.	6220   3.	\$4095

## ANNUITIES.

	<b>379.</b>	
8.		\$5976
	<b>380.</b>	
4.		\$8484.9705

## PERMUTATIONS.

2.		3628800
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## MENSURATION.

	<b>386.</b>	
2.		44sq. ft.

<b>389.</b>	
Example.	
2.	17½sq. ft.
<b>390.</b>	
2.	24sq. ft.
<b>392.</b>	
2.	314.1592
<b>394.</b>	
2.	276.460096sq. ft.
<b>395.</b>	
2.	225cu. ft.
<b>397.</b>	
2.	96c. in.
<b>399.</b>	
2.	238.760992cu. ft.
<b>401.</b>	
2.	201061888sq. m.
3.	2464356067003.3408sq. m.
<b>402.</b>	
2.	268082517333½c. m.
3.	863771813570586479.9573½c. m.

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### MISCELLANEOUS EXAMPLES.

Example.		Example.	
1.	15	17.	6
2.	25½	18.	320
3.	12; 42	19.	26ft.
4.	1½	20.	12026½; 10308½
5.	50	21.	120rd.; 80rd.
6.	30	24.	414
7.	2400	25.	3wk. 8h. 55m. 42sec.
8.	12	27.	1½, ¾, 2½, 1½
9.	6552	28.	100
10.	\$32.409	29.	11s. 8d.
11.	35; 45	30.	6281lb., 411½oz., 98½
12.	6721584		dwt., or 2355½gr.
13.	21600	31.	1½lb. or 4½oz.
14.	115830	34.	1,251,269,485½
16.	5	35.	61.848

Example.

36.	6
37.	21½h.
39.	16
40.	125
41.	4
42.	4
43.	100m.
44.	243
45.	120rd.
46.	32
47.	300
49.	\$18.204
50.	Jan. 17, 1862.
51.	63rd.
52.	\$24257.425
53.	\$36
54.	\$403.338
55.	\$463.97
57.	50 per cent.
58.	\$201.56½

Example.

59.	\$24.96¾
60.	\$365.99½
61.	135
62.	160rd.
63.	\$4.133
64.	8 days
65.	\$3200
66.	1½lb.
67.	\$24
68.	\$32395
69.	{ A \$1000
	{ B \$1229.50½
	{ C \$770.49½
	{ 40gal. at 6s.
70.	{ 15gal. at 10s.
	{ 10gal. at 15s.
	{ 30gal. at 20s.
	{ 1h. 9m. 22½sec.
71.	
72.	49° 33' 45"

